Title 10 – Department of Natural Resources
Division 80 – Solid Waste Management
Chapter 2 – General Provisions

PROPOSED AMENDMENT

10 CSR 80-2.015 Preliminary Site Investigation, Detailed Site Investigation Workplan, Detailed Site Investigation and Characterization Report. The department is amending sections (1) and (2) and amending the forms which follow the rule in the *Code of State Regulations*.

Purpose: This amendment will clarify the geologic and hydrologic conditions the department will use in determining whether a site receives approval or disapproval as a proposed solid waste disposal area prior to submittal of a construction permit application in compliance with section 260.205, RSMo (Cum. Supp. 1996).

(1) On and after January 1, 1996, no applicant may apply for, or obtain, a permit to construct a solid waste disposal area unless the person has obtained geologic and hydrologic site approval from the department. Geologic and hydrologic approval indicates that the site has been found to be suitable for development of a solid waste disposal area, provided the required plans and engineering reports detailing the construction and operation of the site are prepared and approved by the department. In order to obtain geologic and hydrologic site approval from the department, the following procedures must be followed:

(A) The potential disposal area construction permit applicant must obtain preliminary site approval from the department. **The applicant shall provide the department a map that delineates the approximate horizontal boundaries of the proposed solid waste disposal area and provide the approximate elevation of the base of the proposed solid waste disposal area. The applicant may provide the department any other information pertinent to the site that may assist in the preliminary site investigation.** The Division of Geology and Land Survey (DGLS) Geologic Survey Program (GSP) will conduct a preliminary site investigation and approve or disapprove the site for further investigation within sixty (60) days of receipt of a request. Preliminary site approval is provisional, as required additional investigations may reveal conditions that may lead to site disapproval. Disapproval may be *[appealed to]* **reviewed by** the DGLS division director. Preliminary site investigation requests shall be submitted to the GSP on the form included in Appendix 1 which is incorporated herein***[;]*****. After performing a preliminary site investigation, the GSP shall make one of the following determinations:**

1. The geologic and hydrologic conditions of the site are not suitable for the development of a solid waste disposal area.

A. Sites proposed for sanitary or demolition waste landfills known to have one or more of the following geologic or hydrologic

conditions within its boundaries are considered unsuitable for the development of a solid waste disposal area:

(I) Groundwater that must be pumped in order to keep the wastes within the proposed solid waste disposal area isolated above the water table;

(II) Permeable geologic media, including soil or bedrock with karst terrane features, faults, joints, fractures, or voids, that provide a pathway for the rapid migration of fluids from the site into the uppermost regional aquifer or the rapid migration of groundwater from the site to a surface water body outside of the site;

(III) Permeable geologic media, including soil or bedrock with karst terrane features, faults, joints, fractures, or voids, that provide a pathway for the migration of landfill-derived gases outside of the site;

(IV) A fault that has experienced movement during the Holocene epoch that is located within the boundaries of the proposed solid waste disposal area

(V) Groundwater that cannot effectively be monitored on-site due to karst terrane conditions;

(VI) The presence of subsurface voids or conditions that present a significant potential for catastrophic collapse.

B. Sites proposed for utility waste landfills known to have one or more of the following geologic or hydrologic conditions within its boundaries are considered unsuitable for the development of a solid waste disposal area:

(I) A fault that has experienced movement during the Holocene epoch that is located within the boundaries of the proposed solid waste disposal area

(II) Groundwater that cannot effectively be monitored on-site due to karst terrane conditions;

(III) The presence of subsurface voids or conditions that present a significant potential for catastrophic collapse.

2. There is insufficient data to allow a proper determination to be made about site suitability at the preliminary site investigation phase. Such sites shall receive preliminary site investigation approval but data must be collected during the subsequent detailed site investigation that fully characterizes the geologic and hydrologic conditions of the site and demonstrates that the site is suitable for the development of a solid waste disposal area. GSP will assist the applicant in identifying geologic and hydrologic conditions that must be fully characterized during the detailed site investigation. If geologic or hydrologic conditions pursuant to 10 CSR 80-2.015(1)(A)1 are identified during the detailed site investigation, the site shall be disapproved;

3. The geologic and hydrologic conditions of the site may be well suited for the development of a solid waste disposal area. Such sites shall receive preliminary site investigation approval and may be subject to reduced requirements during the

detailed site investigation. Sites that do not have any conditions pursuant to 10 CSR 80-2.015(1)(A)1 and are underlain by one or more of the following geologic and hydrologic conditions below the proposed sub-base grade may be well suited for the development of a solid waste disposal area:

A. A combined minimum thickness of fifty (50) feet of low-permeability geologic material that inhibits the movement of fluids into the uppermost regional aquifer that is currently used or is reasonably likely to be used as a future domestic drinking water source. The low-permeability geologic material must:

(I) Be comprised of shale, mudstone or glacial deposits comprised primarily of clay or silt size particles, and

(II) Lack karst terrane features, continuous sand or gravel layers, faults, fractures, cracks, voids, or other features that provide a pathway for the rapid migration of fluids or gases off the site;

B. **Aquifers that are in geohydrologic connection with the proposed solid-waste disposal area that do not yield potable groundwater or are not capable of producing greater than three hundred sixty (360) gallons of water per day from a domestic water well.**

(B) Prior to conducting further investigation of the proposed site, the potential disposal area construction permit applicant must retain a qualified groundwater scientist who is a registered geologist per section 256.453, RSMo who shall request and attend a workplan development meeting with the GSP. This meeting shall include, at a minimum, discussion of the geology and hydrology of the proposed site and specific elements to be included in the workplan, time frames for completion of work and a discussion of the *[GSP's regulations and requirements]* **regulatory process**;

(C) The qualified groundwater scientist who is a registered geologist per section 256.453 RSMo shall then prepare and submit to the department a workplan for conducting a detailed surface and subsurface geologic and hydrologic investigation. The elements and format of the workplan are listed in Appendix 1, which is incorporated herein. The GSP will review and approve or disapprove the detailed site investigation workplan within thirty (30) days of receipt; and

(D) After the workplan is approved, a qualified groundwater scientist shall investigate and characterize the geology and hydrology of the site in accordance with the approved workplan, applicable rules and department guidance. All geologic and hydrologic data collection and interpretation shall be under the direction of a geologist registered in the state of Missouri. The applicant or a representative shall notify the GSP when drilling, testing, or field investigations are to take place so that department personnel may be present on-site during the investigations.

1. The approved workplan will provide site-specific guidance for the applicant to compete the detailed site investigation. The workplan may be amended and changed with the approval of the GSP, as the investigation proceeds.

2. The qualified groundwater scientist shall interpret and summarize the geologic and hydrologic characteristics of the site in a detailed site investigation and characterization report, which is to be submitted to the GSP. Guidance for conducting and reporting a detailed site investigation is included **herein** as Appendix 1 of this rule,

which is incorporated herein. The report shall be signed and sealed by a geologist registered in the state of Missouri. The report shall be submitted to the GSP for review.

(2) The GSP will review the report within sixty (60) days of receipt and approve or disapprove the site.

(A) Approval will indicate that**:**

1. *[t]***T**he site has been found to have suitable geologic and hydrologic characteristics for the development of an environmentally sound solid waste disposal area*[.]***; or**

2. **That the detailed site investigation and characterization report adequately addresses geologic or hydrologic conditions that can be overcome by engineering pursuant to 10 CSR 80-3.010 (5)(B)3, 10 CSR 80-4.010(4)(B)8 and 10 CSR 80-11.010(5)(A)3 for the development of an environmentally sound solid waste disposal area. Approval shall not be granted to a site that has a condition specified as unsuitable pursuant to 10 CSR 80-2.015(1)(A)1.**

(B) The potential disposal area construction permit applicant who has received approval may then apply for a permit by submitting the required documents, plans and engineering reports to the department.

*[(B)]***(C)** Disapproval will indicate one (1) or more of the following:

1. The site has been found to have unsuitable geologic and hydrologic conditions for the development of an environmentally sound solid waste disposal area; or

2. The characterization of the site is not adequate to show that the site has suitable geologic and hydrologic conditions for the development of an environmentally sound solid waste disposal area; or

3. The characterization report is not adequate to show that the site has suitable geologic and hydrologic conditions for the development of an environmentally sound solid waste disposal area.

*[(C)]***(D)** The GSP will specify the inadequacies of the site, characterization of the site, or site characterization report in the written disapproval of the site. Disapprovals may be *[apprealed to]* **reviewed by** the DGLS division director.

Authority: sections 260.205 and 260.225 (Cum. Supp. 1996). Original rule filed Oct. 10, 1996, effective July 30, 1997.*

**Original authority: 260.205, RSMo (1972), amended 1975, 1986, 1988, 1990, 1991, 1995, and 260.225, RSMO (1972), amended 1975, 1986, 1988, 1990, 1993, 1995.*

PUBLIC COST: The proposed amendment to this rule is anticipated to cost state agencies or political subdivisions less than five hundred dollars ($500) in the aggregate.

PRIVATE COST: The proposed amendment to this rule is anticipated to cost private entities less than five hundred dollars ($500) in the aggregate.